

Tennessee Department of Environment and Conservation
Memorandum

Date: April 22, 2016
 To: Erin Jackson
 From: Brandi Stimson
 Subject: Quality Assurance Performance Audit
 Site: Lockeland: 47-037-0023

On March 29, 2016, personnel from the Quality Assurance section conducted performance audits on selected ambient air monitors. The following is a summary of the parameters and values measured.

Site & Instrument Lockeland: 47-037-0023	Measured Parameter	Audit Value	Monitor Response	Difference	Acceptable Range
Thermo TEOM Serial# 13020	Sample Flow	3.13 lpm	3.01 lpm	- 3.8 %	+/- 4 %
	Bypass Flow	13.94 lpm	13.68 lpm	- 1.9 %	+/- 4 %
	Total Flow	16.97 lpm	16.68 lpm	- 1.7 %	+/- 4 %
	Barometric Press.	753 mm	758 mm	5 mm	+/- 10 mm
	Ambient Temp.	13.2 °C	11.9 °C	- 1.3 °C	+/- 2 °C
	Clock Time	10:00:24 cst.	10:00:00 cst.	- 00:00:24 min.	+/- 00:05:00 min.
Thermo 2025 Serial# 20216 (POC #1)	Sample Flow	16.66 lpm	16.68 lpm	0.1 %	+/- 4 %
	Barometric Press.	754 mm	752 mm	- 2 mm	+/- 10 mm
	Ambient Temp.	14.0 °C	13.9 °C	- 0.1 °C	+/- 2 °C
	Filter Temp.	16.0 °C	15.0 °C	- 1.0 °C	+/- 2 °C
	Clock Time	10:46:00 cst.	10:45:59 cst.	- 00:00:01 min.	+/- 00:01:00 min.
Thermo 2025 Serial# 20224 (POC #2)	Sample Flow	16.60 lpm	16.66 lpm	0.4 %	+/- 4 %
	Barometric Press.	754 mm	754 mm	0 mm	+/- 10 mm
	Ambient Temp.	13.8 °C	12.3 °C	- 1.5 °C	+/- 2 °C
	Filter Temp.	14.6 °C	15.0 °C	0.4 °C	+/- 2 °C
	Clock Time	10:34:00 cst.	10:33:58 cst.	- 00:00:02 min.	+/- 00:01:00 min.

Remarks:

1. All measured parameters were within acceptable limits.
2. It is noted that the sample flow difference of TEOM Serial# 13020 was 3.8%, which is close to the acceptable range of +/- 4%.

Recommendations:

1. It is recommended that this value is watched carefully during monthly maintenance and/or a recalibration be performed on the TEOM sample flow to ensure that it remains within 4%.

If we can be of any further assistance or should there be questions regarding this audit, please contact Brandi Stimson by email at Brandi.Stimson@tn.gov or by phone at (615) 687-7035.

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cc: R. Brawner, APC
 J. Stephens, APC

* Streamline Pro SN# C150304 and www.time.gov were used by Quality Assurance personnel to conduct this audit.